

REMARKS

Applicants present this Amendment and respectfully request reconsideration followed by allowance.

Applicants submit a Declaration under 37 C.F.R. §1.132.

Claims 2, 3, 5, 6, 9, 10, 15-17, 20-23 and 29 are presented for examination. Claims 2, 3 and 22 are amended. The amendments are supported by the original specification throughout, including the original claims. The amendments do not limit the scope of the claims and do not give rise to an estoppel.

I. Applicants respectfully traverse the rejection over the combination of JP 46-27874 in view of Ishii '744, JP-06-93070 or JP 57-108154.

Applicants respectfully, but earnestly, submit there is no *prima facie* case of obviousness under 35 U.S.C. §103(a)¹ and even if, *arguendo*, there is a *prima facie* case of obviousness, the Declaration evidence effectively rebuts it.

A. The claims define unobvious inventions over JP '874 and Ishii '744.

Applicants respectfully request the Examiner to reconsider the obviousness rejection of claims 2, 3 and 5-6, 9-10, 15-17, 20-23 and 29 over JP-46-27874 (JP '874) in view of Ishii '744.

Applicants respectfully submit that the JP '874 reference would not have been combined with Ishii '744 (U.S. Patent No. 4,721,744) with a reasonable expectation of preparing a polyurethane compounded with ingredients to achieve the properties exhibited by

¹ The Examiner "bears the initial burden, on review of the prior art . . . , of presenting a *prima facie* case of unpatentability." *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992). A rejection cannot be predicated on the mere identification of individual components of claimed limitations. There must be evidence that "a skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed." *In re Rouffet*, 149 F.3d 1350, 1357 (Fed. Cir. 1998). *See also, In re Werner Kotzab*, 217 F.3d 1365, 1371 (Fed. Cir. 2000). "[I]t is incumbent upon the examiner to identify some suggestion to combine the references or make the modification." *Ex parte Askman*, Appeal No. 96-1548 (June 10, 1999) at page 5, quoting *In re Mayne*, 104 F.3d 1339, 1342 (Fed. Cir. 1997).

Applicants' claimed inventions. Applicants further submits that even if, *arguendo*, the references would have been combined, a *prima facie* case of obviousness has been rebutted.

Applicants disclosed JP '874 in their specification at page 2, lines 9-12 and 14-15 and report the proposed composition suffers from the discoloring or coloring by heat.

The primary JP '874 reference (Abstract) refers to a C₁₂₋₂₆ fatty acid amide or its derivative being added to a polyurethane elastomer. The abstract mentions 0.3 gram stearamide (I) and appears to report comparison between films with (I) and films incorporating N-(acetoxymethyl)-stearamide, palmitamide, and 4 other compounds.

The primary JP '874 reference itself admittedly does not teach the present claimed inventions. It "is silent regarding the use of hindered phenol compounds." Office Action, March 15, 2004, page 5, paragraph 10.²

The Examiner has recognized the shortcomings of the JP '874 reference but relies upon Ishii '744 (U.S. Patent No. 4,721,744) to supply the missing elements. It appears that the Examiner relies on Ishii '744 at column 2, lines 3-10:

The phenolic type compound of the general formula (I) used in the present invention can be produced by esterification of 3-(3-alkyl-5-tert-butyl-4-hydroxyphenyl)propionic acid or its acid halide or acid anhydride with 3,9-bis(2-hydroxy-1,1-dimethylethyl)-2,4,8,10-tetraoxaspiro[5.5]undecane, or common ester interchange of a lower alkyl ester of said acid with said undecane.

as disclosing specific hindered phenols. Office Action, March 15, 2004, paragraph 10.

However, Applicants respectfully submit the phenolic type compound represented in the formula of Ishii '744 (Abstract) - which is the reaction product obtained as disclosed at column 2, lines 3-10 - is structurally divergent from the phenolic compound(s), such as those represented by formula (II), in (a) in claim 2 herein. Compare the formula in the Ishii '744 reference (Abstract and also at column 1, lines 55-65) with formula II in claim 2 herein.

Applicants respectfully submit that merely pointing to discrete elements of an invention isolated from amongst other teachings in prior art references does not give rise to a *prima facie* obviousness rejection. Applicants respectfully direct attention to the prior

² See, e.g., Ex parte Browne, 19 USPQ2d 1609, 1612 (BOPI 1990) ("since the prior art is silent as to this feature, we are unable to sustain the rejection which we originally precipitated.").

submissions herein traversing the obviousness rejection. Applicants respectfully submit the traversal is also supported by, for instance, In re Deul 34 USPQ (BNA) 1210 (Fed. Cir. 1995), the rejections were reversed:

Thus, even if, as the examiner stated, the existence of general cloning techniques, coupled with knowledge of a protein's structure, might have provided motivation to prepare a cDNA or made it obvious to prepare a cDNA, that does not necessarily make obvious a particular claimed cDNA. "Obvious to try" has long been held not to constitute obviousness. In re O'Farrell, 853 F.2d 894, 903, 7 USPQ2d 1673, 1680-81 (Fed. Cir. 1988). A general incentive does not make obvious a particular result, nor does the existence of techniques by which those efforts can be carried out. Thus, Maniatis's teachings, even in combination with Bohlen, fail to suggest the claimed invention.

Nonetheless, without conceding any *prima facie* case, Applicants submit the Declaration of Kenji Kimura Under 37 C.F.R. 1.132 ("Kimura Declaration") effectively rebuts any *prima facie* case of obviousness. The Kimura Declaration reports an experiment directed to a sheet prepared from a dry-blended composition containing 100 parts by weight of a polyurethane, 0.2 parts by weight of 3,9-bis-(2-(3-(3-tertbutyl-4-hydroxy-5-methylphenyl)propionyloxy)-1,1-dimethethyl)-2,4,8,10-tetraoxaspiro[5.5]undecane and 0.4 part by weight of stearic acid amide. Other 'runs' in the experiment were prepared similarly using the antioxidant or amide compound.

The above-mentioned 3,9-bis-(2-(3-(3-tertbutyl-4-hydroxy-5-methylphenyl)propionyloxy)-1,1-dimethethyl)-2,4,8,10-tetraoxaspiro[5.5]undecane is described in Preparation Example 1 in the Ishii '744 reference. *See also*, Ishii '744 at column 2, lines 3-10.

The reported experiment shows that a composition representative of the present invention incorporating antioxidant AO-1 and the amide B-2 in the total amount of 1.2 parts by weight per 100 parts by weight of polyurethane showed superior results as compared to the expected additive effect of adding AO-1 and B-2. *See*, Kimura Declaration, third page.³

³ Applicants' Example 2 in the present specification similarly reports no yellowing and no discoloration by heat when a polyurethane has incorporated therein 0.5 parts by weight of AO-1 and 0.5 parts by weight B-2. *See*, specification, page 15, Table.

The Kimura Declaration states that the experiments show the present claimed invention has an unexpectedly superior effect over the combined teachings of the JP '874 and Ishii '744 references. *Id.*

B. The claims define unobvious inventions over JP '874 and JP '070.

Applicants respectfully request the Examiner to reconsider the obviousness rejection of claims 2, 3 and 5-6, 9-10, 15-17, 20-23 and 29 over JP-46-27874 (JP '874) in view of JP-06-93070A (JP '070).

The primary JP '874 reference does not teach a combination of an amide compound of Applicants' formula (I) in combination with a hindered phenol defined by formula (II) or formula (III). This is acknowledged in the March 15, 2004 Office Action, page 5, paragraph 10.

The secondary JP '070 reference (Abstract) would not have suggested a polyurethane incorporating the amide compound and a hindered phenol as in the present claimed inventions, nor modification of JP '874 as theorized in the Office Action.

The JP '070 reference refers to a molded product obtained by modifying and molding a thermoplastic polyurethane resin to obtain stability in molding and heat resistance. The JP '070 reference does not disclose making a color-fast product, producing a product from which the stabilizers confer resistance against yellowing in nitrogen oxide environments, or producing a product from which the stabilizers will not leach or have reduced propensity to leach. Rather, the Abstract discloses modifying and molding a polyurethane resin with 100 parts by weight polyisocyanate compound "preliminarily mixed" with 0.05-2 parts by weight of a "specific oxidation stabilizer", viz. a phenol compound in which the R group is tert-butyl in the species with the formula disclosed. According to the JP '070 reference (Abstract), the polyisocyanate compound is preferably a preliminary polymer produced by reacting diphenylmethane diisocyanate with a polyether polyol.

Furthermore, the JP '070 reference (Abstract) apparently refers to a single species of a phenol compound that must be preliminarily mixed with the above-mentioned polyisocyanate. In the formula disclosed (Abstract), the compound apparently includes four

groups containing the moiety - $\text{CH}_2\text{CH}_2\text{C}(=\text{O})\text{OCH}_2$ - (from the JP '070 Abstract) and it therefore appears that the JP '070 reference does not describe nor would it have suggested, for instance, a hindered phenol compound of formula (II) in which n is 1, 2 and/or 3 (see present claim 20), or a hindered phenol in which Y has 2 or more carbon atoms. (See, specification, page 7, lines 6-14). The structurally different compound(s) of JP '070 would not have suggested the hindered phenol compound(s) in the present claimed inventions such as those represented by formula (II) nor would the JP '070 reference have motivated a person of ordinary skill in the art to undertake the molecular modifications to its compounds necessary to arrive at the compound(s), such as those of formula (II), compounded in the polyurethane according to the present claimed inventions.⁴

Arguendo, even if there was a *prima facie* case, it has been rebutted. This logically follows because the Kimura Declaration demonstrates that the present invention achieves unexpected results in comparison to a combination of additives (JP '874 and Ishii '744) that might be as structurally relevant as the species in the JP '070 reference.

C. The claims define unobvious inventions over JP '874 and JP '154.

Applicants respectfully request the Examiner to reconsider the obviousness rejection of claims 2, 3 and 5-6, 9-10, 15-17, 20-23 and 29 over JP-46-27874 (JP '874) in view of JP-57-108154A (JP '154).

The primary JP '874 reference has no apparent disclosure regarding the hindered phenol antioxidants, and would not have taught a polyurethane having incorporated therein the combination of antioxidant(s) and amide compound(s) as in the present claimed invention.

⁴ In determining whether a case of *prima facie* obviousness exists, it is necessary to ascertain whether the prior art teachings would appear to be sufficient to one of ordinary skill in the art to suggest making the claimed substitution or other modification. *In re Taborsky*, 502 F.2d 775, 780, 183 U.S.P.Q. (BNA) 50, 55 (CCPA 1974). The prior art must provide one of ordinary skill in the art the motivation to make the proposed molecular modifications needed to arrive at the claimed compound. *In re Stemniski*, 444 F.2d 581, 586, 170 U.S.P.Q. (BNA) 343, 347 (CCPA 1971), *Taborsky*, 502 F.2d at 781, 183 U.S.P.Q. at 55, *In re Murch*, 464 F.2d 1051, 175 U.S.P.Q. 89 (1972), *In re Fay*, 52 C.C.P.A. 1483, 347 F.2d 597, 146 U.S.P.Q. (BNA) 47 (1965).

The Examiner is apparently relying upon the 2,2'-methylene bis(4-alkyl-6-t-butyl phenol) and bis(1,2,2,6,6-pentamethyl-4-piperidiny)butyl(3,5-di-t-butyl-4-hydroxybenzyl)malonate as the basis for modifying the JP '874 reference to reach the present inventions.

The combination disclosed in the JP '154 reference would not have suggested the different combination that can be advantageously incorporated in a polyurethane as in the present invention. A person of ordinary skill in the art would not have been motivated from the compounds of the JP '154 reference to use the hindered phenol antioxidant(s) of (a) herein, with a reasonable expectation of success. For instance, the JP '154 reference (Abstract) discloses 2,2'-methylene bis(4-alkyl-6-t-butyl phenol), which is different from the hindered phenol antioxidants in the presently pending claims.

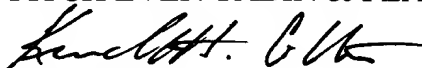
Arguendo, even if there was a *prima facie* case, it has been rebutted. This logically follows because the Kimura Declaration demonstrates that the present invention achieves unexpected results in comparison to a combination of additives (JP '874 and Ishii '744) that might be as structurally relevant as the species in the JP '154 reference.

II. Conclusion

Applicants have endeavored to respond fully to all matters but if the Examiner believes that a matter remains for resolution, or that a matter was not addressed, please first telephone the undersigned so that such matter can be resolved promptly.

Applicants respectfully, but earnestly, solicit a Notice of Allowance.

Respectfully submitted,
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